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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HOANG, THAI D

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/353,460

Applicant(s)

CHEN, JIUNN-TSAIR

Examiner

Thai D Hoang

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Application filed on July 13, 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 11, 18, 28 and 38, the statement – characteristics of channels – is vague, because there is a plurality of characteristics in a communication channel, for example bandwidth, signal-to-noise ratio, congestion, power, priority, etc. Applicant needs to specify what characteristics of the channels to be determined. It is confusing what is meant by “characteristics” of a plurality of channels.

Regarding claims 9, 26, 36 and 46, the statement “processing set” is confusing, because the term “processing set” is too vague. It is not clear what “processing set” the system has to maintain.

Claims 2-10, 12-17, 19-27, 29-37 and 39-47 are rejected because they depend on rejected claims 1, 11, 18, 28 and 38 respectively.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-2, 9-11, 18-19, 26-29, 36-39, and 46-47 are rejected under 35 U.S.C. 102(e) as being unpatenable over Kuo et al, US patent No. 6,504,827 B1, hereafter referred to as Kuo.

Regarding claims 1, 11, 18, 28 and 38, as best understood, Kuo discloses a method and system, which assigns codes in a CDMA wireless communication system in which a plurality of wireless terminals communicate via a plurality of channels (figure 2, col. 1 lines 16-20). The method comprises the steps of: determining characteristics of the plurality of channels; and assigning codes to the plurality of wireless terminals based on the characteristics of channels (fig. 2, col. 4, lines 52-60; The decision when to transmit data to Mobile Telephone 16-k is determined by base station (BS) 14-i, a base station controller, or some other entity or device that manages (or has knowledge of) the available spectrum resources. In this embodiment, BS 14-l (or base station controller) examines the available spectrum resources for the forward link and RF conditions of its associated cells before determining in which frames data should be transmitted to Mobile Telephone 16-k.)

Regarding claims 2, 19, 29 and 39, the step of assigning codes in the system disclosed by Kuo inherently comprises the steps of choosing a target wireless terminal; and assigning a code to the target wireless terminal, because Kuo discloses that the communication between a mobile and a base station in the system based on CDMA technique.

Regarding claims 9, 26, 36 and 46, as best understood, Kuo's system inherently comprises the steps of: maintaining a processing set of the plurality of wireless terminals in order to ensure a call between subscribers; individually assigning codes to the wireless terminals in the processing set because Kuo discloses that the communication between a mobile and a base station in the system based on CDMA technique; and adding a wireless terminal to the processing set when the step of individually assigning codes to the wireless terminals in the processing set has converged and repeating the step of individually assigning codes, because Kuo's system has to update any user access to the system.

Regarding claims 10, 27, 37 and 47, the base station in the system disclosed by Kuo inherently comprises the step of transmitting codes to the plurality of wireless terminals because Kuo discloses that the communication between a mobile and a base station in the system based on CDMA technique.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-8, 12-17, 20-25, 30-35, 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo et al, US patent No. 6,504,827 B1 in view of Easton Us patent No. 5,764,687, hereafter referred to as Kuo and Easton respectively.

Regarding claims 3-5, 12-14, 20-22, 30-32 and 40-42, Kuo does not disclose that the step of assigning a code to a target wireless terminal comprises the step of performing a random code search to obtain an improved code for the target wireless terminal which is an improvement over a current code of the target wireless terminal. However, Easton teaches this feature. Starting with peak 0, the strongest peak, on clock cycle 13, and continuing through to peak 3 on clock cycle 23, the energy for the current offset being processed is compared with the stored peaks. If the input energy is greater than the stored energy being compared against, the input energy overwrites the stored energy, that then simultaneously replaces the input energy in accumulator latch 342. By stepping from larger to smaller peaks, once the input energy exceeds a stored peak, all of the lesser peaks are automatically "demoted" a ranking as a matter of course as the peak comparison progresses (col. 20, lines 54-64.) However, Easton does not teach that the code search is performed randomly.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt random search to the system disclosed by Easton in order to minimize time for searching; and adapt the searching improved signal disclosed by

Easton into Kuo's system in order to improve the quality of service to a subscriber (terminal) because the strongest signal is transmitted.

Regarding claims 6, 15, 23, 33, and 43, Kuo does not teach that the system performs a gradient search of codes in the signal space area surrounding the improved code. However, a gradient search of codes in the system disclosed by Easton inherently performs in the signal space area surrounding the improved code, because Easton's system searches all area of the signals by search windows (col. 11, line 54 – col. 12, line 2; col. 13, line 66 – col. 14, line 11.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the searching method disclosed by Easton into Kuo's system for the same purpose as mentioned in claim 3.

Regarding claims 7, 16, 24, 34 and 44, Kuo does not teach that the system performs a gradient search of transmission delays for the improved code. However, Easton discloses that the task of a searcher (14) is to identify the delay as measured by the horizontal axis of signal spikes 2-7 (figure 1) for potential finger assignment (col. 3, lines 6-8.) Therefore, it implies that Easton's system inherently performs a gradient search of transmission delays for the improved code.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the searching method disclosed by Easton into Kuo's system for the same purpose as mentioned in claim 3.

Regarding claims 8, 17, 25, 35 and 45, the combination limitations of claims 6-7 into claim 8, 15-16 into claims 17, and so on, therefore, these claims are rejected based on rejected claims 6-7, 15-16, 23-24, 33-34, and 43-44 respectively.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to the application:

US Patent No. 6,414,946 B1 to Satou et al

US Patent No. 6,061,339 A to Nieczyporowicz et al

US Patent No. 5,889,768 A to Storm et al

US Patent No. 5,280,472 A to Gilhousen et al

US Patent No. 5,790,589 to Hutchison IV et al

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (703) 305-3232. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone numbers for the organization where this application or proceeding is assigned is (703) 872-9314 for regular communications and for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Thai Hoang
January 11, 2003

KWANG BIN YAO
PRIMARY EXAMINER

